OBJ-10702/16
31020jtl

IMPROVED CONDOM

Background of the Invention

Cross-Reference to Related Applications

This application claims priority from U.S. Provisional Application No. 60/428,557, filed November 22, 2002.

Field of the Invention

The present invention concerns an improved condom. More particularly, the invention concerns an improved male or female condom that have an improved shape, surface texturing and a system for anchoring/retaining the condom.

Reference to Related Art

Male and female condoms typically include an elongated sheath that has an open end and a closed end. However, from this basic design the prior art has seen a number of advancements. For example, WO 97/30668 shows a male condom that is designed to loosely fit around the user. The wall of the condom includes a series of three to five grooves that are approximately 0.8 cm wide and 1.0 cm deep. The grooves function as bellows that allow the condom to be placed in a substantially flat condition prior to use. A similar design is also shown in U.S. Design Patent No. 420,127.

It has also been known to place ribbing on the exterior surface of a male condom. For example, U.S. Patent No. 6,308,708 discloses a male condom having an exterior surface that includes a plurality of intersecting spiral ribs. The regions of ribbing can be staggered along the exterior surface in order to

vary the sensation imparted by the condom. Another ribbed design is shown in U.S. Design Patent No. 252,949.

Finally, the prior art has also seen the introduction of a number of novelty devices such as the condom disclosed by U.S. Design Patent No. 448,471. This reference generally discloses a design for a condom having an open end and a closed end, with the closed end having the appearance of a killer whale.

Summary of the Invention

The present invention concerns an improved condom (male or female). A body of the condom includes a wall that has an interior and exterior surface. The body also has an open end and a closed end. This application claims priority from U.S. Provisional Application No. 60/428,557, filed November 11, 2002, which is incorporated reference herein in its entirety.

A curved region may be provided along the length of the body. The use of a curved region permits the wall of the condom to "bunch". A texture portions, such as ridges, may be disposed in or along the wall of each curved region. The ridges function to increase the sensation transmitted by the condom during use.

The condom may also include a textured portion without the curved region. These textured portions, i.e., protrusions, are formed in the wall or otherwise extend from the wall of the condom. The protrusions may have sloped surfaces that extend in any direction, but are preferably sloped against

the direction of insertion. The protrusions may also extend circumferentially around the entire body.

An insert(s) may be positioned in and operable to engage the interior surface of the body to provide support for each protrusion. The insert(s) may be constructed of any rigid or semi-rigid material, (e.g., a plastic, foam or sponge) may be any size and arranged in a variety of shapes (e.g., oval, triangular, squared, etc.).

Finally, the condom may include a retention device that is positioned within the interior of the body proximate the closed end. The retention device is preferably a sphere of material that is operable to expand following the insertion of the condom such that the exterior surface of the wall of the condom is frictionally secured in position.

Brief Description of the Drawings

A better understanding of the present invention will be had upon reference to the attached drawings wherein like reference numerals refer to like parts throughout and wherein:

Figs. 1A – B are side views of two embodiments of an improved male condom;

Figs. 2A-B are side views of alternative embodiments of an improved male condom;

Figs. 3A - B are a side views of two embodiments of an improved female condom;

Figs. 4A – B are a side views of an alternative embodiment of a male or female condom;

Figs. 4C – D show artificial head-like or retention devices that may be incorporated into the male or female condoms of Figs. 4A – B.

Detailed Description

The present invention concerns an improved condom that includes a sheath-like body having a wall with an interior and an exterior surface, a closed end and an open end. A textured portion is provided in the wall such that exterior surface has a unique shape and feel.

Referring now to Figs 1A and 1B, there are shown two embodiments of condoms 100, 200 in accord with the present invention. Like structures will be referred to by like references numbers. The condoms 100, 200 are male condoms that each have a sheath-like body 12 that includes a wall 14 with an interior 16 and exterior 18 surface, a closed end 20 and an open end 22. A curved region 24 is provided along the length of the body. As best shown in Fig. 1B, the curved region 24 is positioned proximate the closed end 20 of the body 12. However, the condoms 100, 200 (and 300, 400) may also be constructed such that the curved region 24 is disposed at any point along the length of body 12. For example, as shown in Fig. 1A, the curved region 24 of the condom 100 is positioned at a point approximately equidistant from the ends 20, 22 of the condom 100. As discussed below, the use of a curved region 24 permits the wall 14 to "bunch" when applied to an erect penis. Textured portions 23, such as ridges 25 (or a pouch on pouch structure), may be disposed

in the wall 14 along an inside 27 of each curved region 24. Alternatively, the textured portions 23 may be disposed on an area of the body 14 that is opposite the inside 27 of the curved region. It will also be appreciated that the other areas of the condom 100, 200 may also include one or more textured regions. The ridges 25 function to increase the sensation transmitted by the condom 100, 200 during use.

Still referring to Figs. 1A and 1B, the condoms 100, 200 are manufactured using an appropriately shaped mold (e.g., a curved condom mold (not shown)). In use, the curved region 24 causes the wall 14 of the body 12 to "bunch" in the area of the curved region 24. The amount of bunching, and thus the sensation being conveyed, depends upon the physical characteristics of a user and the curved shape of the condom and will change from user to user. By way of example when considering condom 200 shown in Fig. 1B, a normally straight human penis could cause significant bunching (or gathering) of the material in the inside 27 of each curved region 24 of the wall 14. The condoms 100, 200 may also convey a different feel, for variety, upon each application since the curved region 24 of the condoms 100, 200 may be positioned differently during use. Additionally, when the curved region 24 is disposed proximate the closed end 20 of the body 12, it is possible that little or no bunching of the wall 14 will occur.

Referring now to Figs. 2A and 2B, there are shown two alternative embodiments of an improved condom 300, 400 that include a sheath-like body 12 having a wall 14 with an interior 16 and exterior 18 surface, a closed end 20

and an open end 22. The textured portion 23 includes protrusions 28 that are formed in the wall 14 or other otherwise extend from the wall 14. Each protrusion 28 has a generally triangular shape that includes a long sloped surface 30 and a short sloped surface 32 that are joined at an apex 34. The inside angle of the apex 34 between the two sloped surfaces is an acute angle "A" between 0 and 90 degrees. A second acute angle "B" between 0 and 90 degrees is formed at the intersection between the short-sloped surface 34 and the exterior surface 18 of the body 12. The protrusions 28 are spaced along the exterior surface 18 or, alternatively, may extend. The protrusions 28 may be of any width on the circumference of the pouch and sloped in any direction, but are preferably sloped against the direction of insertion (i.e., toward the open end 22 of the body 12). The protrusion 28 may also extend circumferentially around the entire body 12.

In use, the protrusions 28 create resistance to the withdrawal/extraction of the condom 200 (or alternatively resistance to insertion depending on the slope of the protrusion 28) and also create increased friction between a user and his partner. The protrusions 28 are preferably molded from a flexible material (e.g., latex) as part of the wall 14, but may also extend from the wall 14. Alternatively, the protrusions 28 may be manufactured such that the walls have an increased thickness that imparts a rigid or textured feel to the protrusions 28. The protrusions 28 may be filled with a material 35. Suitable materials 35 include a fluid (e.g., a gel or saline) or a rigid or semi-rigid material (e.g., a polymer, foam or sponge).

The protrusions 28 may be reversible (i.e., may be turned inside out) and may extend inwardly or outwardly relative to a longitudinal axis C of the body 12 of the condom 200. The protrusions 28 may also have a reciprocal movement such that during application and use the protrusions 28 move inwardly and outwardly. Inwardly extending protrusions 28 function to lift and support the interior surface 16 of the wall 14 away from the skin of the user such that contact between the skin and the surface 16 is limited. The lifting of the wall 14 away from the skin of the use also creates an artificial sense of increased circumference of the penis shaft and relieves a user from the "tightly bound" feeling that can be attributed to tight fitting condoms.

Referring now to Figs. 3A-B, there is shown two embodiments of an improved female condom 500, 600 that includes a sheath-like body 12 having a wall 14 with an interior 16 and exterior 18 surface, a closed end 20 and an open end 22.

As with the disclosure of Fig. 2A-B, the embodiments of the condoms 500, 600 shown in Figs. 3A-B include textured portions 23, in the form of protrusions 28, are disposed along the wall 14 of the body 12. An insert 36 is positioned in and engages the interior surface 16 of the body 12 to provide support for each protrusion 28. The insert(s) 36 is preferably a ring-shaped sponge having a diameter between $1/64^{th}$ inch and 4 inches and a width "W" between $1/64^{th}$ (i.e., similar to a very thin gauge wire) and 4 inches. However, the insert 36 may be constructed of any rigid or semi-rigid material, (e.g., a

plastic, foam or sponge) may be any size and arranged in a variety of shapes (e.g., oval, triangular, squared, etc.).

Still referring to Figs. 3A-B, the insert(s) 36 is positioned in the interior of the condom 500, 600 during manufacture by being molded into slots in the inner surface 16 of the wall 14 of the body 12. Alternatively, the insert(s) 36 may be placed into the wall 14 mechanically, e.g., during the latex dipping (or plastic blowing, depending on condom material) procedure of manufacturing the body 12.

By engaging and supporting the protrusions 28, the insert(s) 36 impart rigidity to the protrusions 28 and thus additional friction during use. This additional friction necessarily prevents accidental pullout of the condoms 500, 600 during use by increasing the adhesion of the outer wall 16 the vaginal walls. The insert(s) 36 also assist in keeping the interior surface 16 of the wall 14 of the body 12 from adhering to the skin of the erect male penis, which also prevents pullout of the condoms 500, 600.

Referring now to Figs. 4A-D, there are shown a further embodiments of a female condom 700 and a condom retention device 40. The condom 700 includes a sheath-like body 12 having a wall 14 with an interior 16 and exterior 18 surface, a closed end 20 and an open end 22. A retention device 40 is positioned within the interior of the body 12 proximate the closed end 20 and may by held in position by indentation 41. Alternatively, the exterior surface of the retention device 40 (or a portion thereof) may include an adhesive that mounts the retention device 40 to the interior 16 of the condom 700.

Still referring to Figs. 4A-D, and as best shown in Fig. 4C, the retention device 40 may be a sphere or other shape of material (e.g., a disk, oval, square, rectangle, etc.) that is operable to expand following the insertion of the condom 700. More specifically, the device 40 is a dehydrated (or merely compressed) spherical sponge (or other expandable material) that has been compressed such that it has an initial diameter (or shape) equal to or smaller than an interior diameter of the condom 700. Alternatively, the device is sponge that is encapsulated by a film that quickly disintegrate when exposed to a liquid (e.g., silicone lubrication as currently used in male and female condoms) and/or temperatures (i.e., in vivo body temperatures of approximately 98 degrees). As the film disintegrates, the sponge expands to a diameter or width that is greater that the interior diameter of the condom 700. For example the sponge may be constructed to expand to between 2 and 10 times (or more) the compressed size. As best shown in Fig. 4D, the device 40 may be dimensioned to have a concave surface 42 that functions as a finger guide.

During use, following the insertion of the condom 400, the device 40 expands to a diameter greater than the interior diameter of the condom 700 to hold it in place such that the exterior surface 18 of the wall 14 of the condom 700 is frictionally secured inside the vaginal cavity of the female user. By frictionally securing the condom 700 in this manner the possibility of an unintentional pullout of the condom 700 is eliminated or greatly reduced.

Having thus described my invention, various modifications will become apparent to those having skill in the art that do not depart from the

scope of the present invention. For example, it will be appreciated that any improvement shown for use with or within a male condom may also be operable for use in a female condom, and visa-versa.

I claim: